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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/531,578

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Yasushi Uchida

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1842

25944 7590 12/10/2008

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EXAMINER

KEMMERLE III, RUSSELL J

ART UNIT

PAPER NUMBER

1791

MAIL DATE

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12/10/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/531,578	<b>Applicant(s)</b> UCHIDA ET AL.	
	<b>Examiner</b> RUSSELL J. KEMMERLE III	<b>Art Unit</b> 1791	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 August 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 9 and 11-18 is/are pending in the application.
- 4a) Of the above claim(s) 13-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9, 11, 12, 17 and 18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submissions filed on 1 August 2008 and 20 August 2008 have been entered.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 9, 11, 12, 17 and 18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The newly added limitation to claim 9 that colloidal particles are added to the clay as a super additive does not appear to be supported by the specification as originally filed. Further, the specification as originally filed does not appear to support the newly added limitation that a clay is formed before

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the addition of the colloidal particles (specifically page 11 lines 20-22 recites that “[t]he clay in the present invention needs to contain at least the aggregate particle material, water, organic binder, pore former, and colloidal particles”). If support is found in the specification but was missed by the Examiner the Applicant is invited to point out specifically where such support can be found in the reply to this Office action.

Claims 11, 12, 17 and 18 are rejected based on their dependence from on claim 9. If support is found in the specification but was missed by the Examiner the Applicant is invited to point out specifically where such support can be found in the reply to this Office action.

Claims 9, 11, 12, 17 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9 is rejected based on the newly added limitation describing the colloidal particles as a “super-additive”. It is unclear what a super-additive is or how it might differ from a regular additive, and there does not appear to be any use of the term “super-additive” in the specification to indicate to one of ordinary skill in the art what the term means.

Claims 11, 12, 17 and 18 are rejected based on their dependence from on claim 9.

### ***Double Patenting***

Claims 9, 11 and 12 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 7 and 9 of

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copending Application No. 10/531,873. This rejection was first made in the non-final Office action date 20 September 2007, and having not been addressed by the Applicant is maintained.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Claim Rejections - 35 USC § 103***

Claims 9, 11, 12, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beall (WO 01/16,049) in view of Hamaguchi (US Patent 5,069,697).

Beall discloses a method of forming a ceramic honeycomb body involving kneading a mixture of magnesium oxide, aluminum oxide and silicon oxide (i.e., an aggregate particle material), with an organic binder system including water. This mixture is then formed into a honeycomb shaped green body, dried and fired (the firing process would inherently involve also calcining the body since it is fired at a temperature above the calcining temperature of such a body) (claim 1).

Beall further discloses that the silica could be in the form of colloidal silica (page 8 lines 8-9) and be in an amount of at least 5% by weight of the inorganic raw material mixture (aggregate particle material) (claim 4)..

Beall does not specifically disclose an additive put in for the purpose of forming pores having a composition different than the organic binder.

Hamaguchi discloses a method of making a porous ceramic honeycomb filter that is substantially similar to the process of Beall as discussed above. Hamaguchi further discloses that the composition which is extruded into a honeycomb shape in

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cluded a pore forming agent (referring to claim 18, Hamaguchi specifically discloses that the pore forming agent be graphite) (Col 3 line 34 – Col 4 line 10).

It would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method of Beall as discussed above by adding a pore forming agent as taught by Hamaguchi (specifically graphite). This would have been obvious because a dedicated pore forming agent would allow for the greater control of both the total amount of porosity in the finished article, as well as the size of those pores. This would be desirable both as a way of creating articles matching desired specifications, as well as creating articles that maintain consistency throughout the batch.

Referring to claim 11, Beall further discloses adding 0.2-2 parts by weight of sodium stearate (an alkali metal source) based on 100 parts by weight of the aggregate particle material (page 9 lines 17-21).

Referring to claim 12, Beall includes teachings that the aggregate material include alumina as discussed above. Further, Beall teaches that the mixture created include the aggregate material in an amount of at least 50% by mass (page 9 lines 9-21, based on the amount of additives disclosed being less than 50% by mass)

Referring to claim 17, Beall discloses that a preferred binder is methyl cellulose (page 9 lines 13-16).

### ***Response to Arguments***

Applicant's arguments filed 20 August 2007 have been fully considered but they are not persuasive.

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Applicant argues that the colloidal silica disclosed by Beall is used as part of the aggregate particle material.

This is not found to be persuasive because such a difference is not supported by the language of claim 9. Claim 9 requires the mixing and kneading of an aggregate particle material (a ceramic and/or metal, specifically defined in the specification as being one or more selected from a group including alumina and others, page 5 lines 3-7), water, an organic binder, a pore-former and colloidal particles, followed by shaping and further processing of the mixture. Beall, as discussed above, teaches the creation of a mixture of alumina (or other ceramics, i.e., a aggregate particle mixture), an organic binder system including water, and colloidal silica (the pore-former being added by the combination of Hamaguchi as discussed above). The attempt by the Applicant to label some of the materials of Beall within, and other materials outside of, an arbitrary group name such as "aggregate particle material" does not overcome the fact that the combination of Beall and Hamaguchi disclose creating a mixture of the same materials recited in the current claims (ceramic such as alumina, binder, water, pore-former and colloidal particle) and processing that mixture in the same manner (forming and firing).

Applicant further argues that Beall does not disclose or suggest a need for a pore-forming agent because excellent results are obtained without the use of a pore-forming agent and that the prior art must suggest such an improvement for the change to be obvious.

This is not found to be persuasive because the prior art, taken as a whole, does provide such a suggestion, and the fact that it is not found in Beall is irrelevant.

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Hamaguchi teaches the known use of a dedicated pore-forming agent in the use of making a ceramic honeycomb structure, and that by controlling the amount and type of such a pore former a wide range of advantages can be achieved (including the size and total amount of pores throughout the body). Thus, the prior art does suggest to one of ordinary skill in the art the use of a dedicated pore-forming agent should be used in the process of Beall, and the fact that Beall obtains excellent results without does not negate the fact that one looking at the prior art as a whole would be motivated to use a dedicated pore-former.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RUSSELL J. KEMMERLE III whose telephone number is (571)272-6509. The examiner can normally be reached on Monday through Thursday, 7:00-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steven P. Griffin/  
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Examiner, Art Unit 1791